

REMARKS

This Response is submitted in reply to the final Office Action mailed on February 13, 2012. No fee is due in connection with this Amendment. The Director is authorized to charge any additional fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712174-00037 on the account statement.

Claims 26-32 and 35-41 are pending in this application. Claims 1-25 and 33-34 were previously canceled without prejudice or disclaimer. In the Office Action, Claims 26-32 and 35-41 are rejected under 35 U.S.C. §103. For at least the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, Claims 26-32 and 35-39 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,772,934 to MacFadden ("*MacFadden*") in view of U.S. Patent No. 6,280,878 B1 to Maruyama et al. ("*Maruyama*"). For at least the reasons set forth below, Applicants respectfully submit that, even if combinable, *MacFadden* and *Maruyama* fail to disclose each and every element of the present claims.

Independent Claim 26 recites, in part, a gel electrolyte secondary cell comprising: a positive electrode; a negative electrode comprising a current collector and a powder mixture composed of a negative electrode active material having a mean particle size of 5 to 100 μm ; and a gel electrolyte comprising an electrolyte salt, a non-aqueous solvent and a high-molecular weight material, wherein the non-aqueous solvent comprises propylene carbonate and ethylene carbonate, wherein a content of propylene carbonate ranges from 10 mol% to 75 mol%, and wherein the negative electrode active material comprises sintered meso-carbon micro-beads.

If a graphite material is used as a negative electrode in a non-aqueous electrolyte cell, propylene is decomposed due to the instability of propylene carbonate against a graphite material, thereby lowering the charging/discharging efficiency. See, Specification, page 2, paragraph 20. As set forth in Applicants' Affidavit submitted on August 9, 2011 ("*Affidavit*"), it is well known that the degree of decomposition of propylene carbonate in a graphite cell varies depending on the physical properties of the graphite material. See, *Affidavit*, ¶ 5. For example, the conventional understanding at the time of the invention was that a graphite material having a larger particle size has a smaller surface area and thus is less susceptible to decomposition of propylene carbonate. See, *Affidavit*, ¶ 5.

If, however, the graphite material has a small particle size, the conventional understanding was that decomposition of propylene carbonate is significant. See, *Affidavit*, ¶ 5. Decomposition of propylene carbonate results in a discharge capacity loss that lowers the charging/discharging efficiency of the battery. See, *Affidavit*, ¶ 5. Therefore, the conventional understanding was that it was desirable to use graphite having a larger particle size in a battery containing a propylene-carbonate based electrolytic solution. See, *Affidavit*, ¶ 5. However, in a non-aqueous gel electrolyte cell, a graphite material having a smaller particle size is desirable in order to maintain the electron and ion conductivities between the particles of the graphite material in the anode. See, Specification, page 2, paragraphs 22-23. Therefore, at the time of the invention, it was difficult to obtain a gel electrolyte secondary cell simultaneously having a large discharge capacity and a high charging/discharging efficiency. See, Specification, page 2, paragraphs 24-26.

Applicants surprisingly discovered that when the graphite negative electrode material comprises sintered meso-carbon micro-beads, a high charging/discharging efficiency can be obtained in a gel electrolyte containing propylene carbonate even when the graphite material has a small particle size and, thus, a high discharge capacity. See, Specification, page 1, paragraph 18; page 2, paragraphs 26-28. In contrast, when the negative electrode material comprises fired petroleum coke having a small particle size, the charging/discharging efficiency is significantly lower when the gel electrolyte includes propylene carbonate. See, Specification, Tables 1-2. The present claims therefore provide a gel electrolyte secondary cell including a negative electrode active material having a mean particle size of 5 to 100 μm , wherein the negative electrode active material comprises sintered meso-carbon micro-beads; and wherein the non-aqueous solvent comprises propylene carbonate. In contrast, the cited references are deficient with respect to the present claims.

For example, even if combinable, *MacFadden* and *Maruyama* fail to disclose or suggest a gel electrolyte secondary cell wherein the graphite material comprises sintered meso-carbon micro-beads as recited, in part, by Claim 26. The Patent Office asserts that the phrase “comprises sintered meso-carbon micro-beads” is a product-by-process limitation which has not been given patentable weight. See, Office Action, page 9, lines 18-20. The Patent Office explains that “[t]he material used to obtain *the graphite* is not given patentable weight in the absence of unexpected results.” See, Office Action, page 9, lines 20-22 (emphasis added).

In response, Applicants respectfully note that Claim 26 does not recite a “graphite” material and instead expressly requires that the negative electrode active material sintered meso-carbon micro-beads. As explained in the Specification and discussed previously, it is well known in the art that the physical properties of graphite materials vary ***based on the starting material and the production process***. See, Specification, page 2, paragraph 21; *Affidavit*, ¶¶ 4-5 (emphasis added). Contrary to the Patent Office’s assertion, one of ordinary skill in the art would understand that different production processes and different starting materials result in different graphite materials having distinct physical properties and, thus, a negative electrode active material comprising sintered meso-carbon micro-beads is distinct and nonobvious from graphite materials formed using other starting materials. As a result, Applicants respectfully submit that the limitation “sintered meso-carbon micro-beads” is entitled to patentable weight.

Moreover, the limitation should be given patentable weight because the Specification demonstrates unexpected results between active materials comprising sintered meso-carbon micro-beads and graphite materials formed by other processes and starting materials. For example, Table 1 demonstrates charging/discharging efficiencies for a gel electrode cell containing a lithium metal foil positive electrode, an electrolyte composed of 35 mol % propylene carbonate and 65 mol % ethylene carbonate, and a negative electrode when various carbonaceous materials were used as the negative electrode active material. See, *Affidavit*, ¶ 6. When the negative electrode material was a fired material of ***meso-carbon micro-beads*** having a particle size such that the specific surface area is 3.6 m²/g and 1.2 m²/g, respectively, initial charging/discharging efficiencies of 82.8% and 82.6% were obtained. See, *Affidavit*, ¶ 6; Specification, Table 1.

In contrast, when the same cell was used except that the negative electrode material was a ***fired petroleum coke*** having a specific surface area of 4.5 m²/g, the initial charging/discharging efficiency was significantly lower – 61%. See, *Affidavit*, ¶ 6; Specification, Table 1. One of ordinary skill in the art would thus understand that a gel electrolyte secondary cell including a negative electrode active material comprising sintered meso-carbon micro-beads having the claimed particle size achieves an unexpectedly high charging/discharging efficiency when combined with propylene carbonate and is thus nonobvious over gel electrolyte secondary cells including graphite materials formed from other starting materials. See, *Affidavit*, ¶ 6.

In response to Applicants' previous arguments regarding the claimed negative electrode active material, the Patent Office asserts that "Applicant does not provide persuasive arguments of unexpected results over MacFadden in view of Maruyama." See, Office Action, page 10, lines 4-5. The Patent Office further states that "[e]vidence of unexpected results must distinguish the claimed invention over the prior art *of record*." See, Office Action, page 10, lines 11-12 (emphasis added). However, contrary to the Patent Office's assertion, evidence of unexpected results need not compare the invention with the prior art of record and instead must compare the claimed subject matter "*with the closest prior art*." See, M.P.E.P. § 716.02(e) (2010) (emphasis added). The claimed invention may be compared with prior art that is more closely related to the invention than the prior art relied upon by the examiner. See, M.P.E.P. § 716.02(e)(I) (2010).

For example, in *Ex parte Humber*, the Patent Office rejected claims to a 13-chloro substituted compound as obvious over nonchlorinated analogs of the claimed compound. 217 U.S.P.Q. 265 (Bd. App. 1961). "Evidence showing unexpected results for the claimed compound as compared with the 9-, 12-, and 14- chloro derivatives of the compound rebutted the *prima facie* case of obviousness because the compounds compared against were closer to the claimed invention than the prior art relied upon." *Id.* (cited in M.P.E.P. § 716.02(e)(I) (2010)). Similarly, the Specification demonstrates unexpectedly high initial charging/discharging efficiencies for a graphite material comprising sintered meso-carbon micro-beads as compared with a specific graphite material comprising fired petroleum coke. See, Specification, Tables 1-2. In contrast, the prior art relied on by the Patent Office merely discloses "graphite" anode active materials, without any teaching regarding the particular starting material or process used to make the "graphite" material. See, *MacFadden*, column 4, lines 9-13; *Maruyama*, column 5, lines 9-10. As such, Applicants' evidence of unexpected results compares closer prior art than the art relied on by the Patent Office and is sufficient to show nonobviousness.

The Patent Office further asserts that Applicants have not shown that the graphite material in Comparative Example 1 is the closest prior art. See, Office Action, page 10, lines 20-21. However, Applicants respectfully submit that it would be impossible to compare the claimed material to the graphite materials of the cited references because *MacFadden* and *Maruyama* do not disclose specific graphite materials or the specific starting materials used to make its "graphite," and, thus, the exact specifications for those materials do not exist.

Applicants respectfully note that although evidence of unexpected results must compare the claimed invention with the closest prior art, an applicant is not required to compare the claimed invention with subject matter *that does not exist* in the prior art. See, M.P.E.P. § 716.02(e)(III) (2010) (citing *In re Chapman*, 357 F.2d 418, 148 U.S.P.Q. 711 (CCPA 1966) and stating that “Requiring applicant to compare claimed invention with polymer suggested by the combination of references relied upon in the rejection of the claimed invention under 35 U.S.C. 103 ‘would be requiring comparison of the results of the invention with the results of the invention’”).

MacFadden merely discloses a carbon anode active material that may be in the form of graphite generally and fails to specify the particular type of graphite material used. See, *MacFadden*, column 4, lines 9-13. *Maruyama* similarly teaches a battery wherein “[t]he carbon used as the active material may be properly selected from natural or artificial graphite” but fails to specify the starting material or production process for the graphite. See, *Maruyama*, column 5, lines 9-10. Thus, *MacFadden* and *Maruyama* both fail to disclose or suggest a negative electrode active material comprising sintered meso-carbon micro-beads.

Accordingly, Applicants respectfully request that the rejection of Claims 26-32 and 35-41 under 35 U.S.C. §103(a) to *MacFadden* and *Maruyama* be withdrawn.

In the Office Action, Claims 26-32 and 35-41 are rejected under 35 U.S.C. §103(a) as being unpatentable over *MacFadden* in view of U.S. Patent No. 5,522,127 to Ozaki et al. (“*Ozaki*”). For at least the reasons set forth below, Applicants respectfully submit that, even if combinable, *MacFadden* and *Ozaki* are deficient with respect to independent Claim 26 and Claims 27-32 and 35-39 that depend therefrom.

For example, even if combinable, *MacFadden* and *Ozaki* fail to disclose or suggest using sintered meso-carbon micro-beads having the claimed size in combination with a solvent containing propylene carbonate as required, in part, by Claim 26. As supported by the *Affidavit*, *MacFadden* merely discloses using graphite in a solid polymer electrolyte cell containing propylene carbonate and fails to teach that the graphite comprises sintered meso-carbon micro-beads. See, *MacFadden*, column 4, lines 9-13; column 5, lines 11-20; *Affidavit*, ¶ 8. *Ozaki* merely discloses a micro-bead based electrode with an electrolyte containing ethylene carbonate, diethyl carbonate and methyl propionate and fails to teach the claimed combination of sintered meso-carbon micro-beads having the claimed size and a solvent containing propylene carbonate.

See, *Ozaki*, column 2, lines 66-67; column 3, lines 1-7; column 4, lines 54-58; *Affidavit*, ¶ 10. Instead, pursuant to conventional wisdom, *Ozaki* teaches that propylene carbonate generates unfavorable side reactions with its small-sized graphite particles and therefore should not be used with its graphite particles. See, *Ozaki*, column 7, lines 5-16; *Affidavit*, ¶ 10.

Moreover, one of ordinary skill in the art would have no reason to combine the cited references to arrive at the present claims because *Ozaki* teaches away from using its mesophase carbon particles with a propylene carbonate solvent as required by the present claims. References must be considered as a whole and those portions teaching against or away from each other and/or the claimed invention must be considered. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443 (Fed. Cir. 1986). “A prior art reference may be considered to teach away when a person of ordinary skill, upon reading the reference would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Applicant.” *Monarch Knitting Mach. Corp. v. Fukuhara Indus. Trading Co., Ltd.*, 139 F.3d 1009 (Fed. Cir. 1998) (quotation omitted) (emphasis added).

The Patent Office asserts that Applicants’ argument that *Ozaki* teaches away from propylene carbonate has been addressed by the Board of Patent Appeals and has been determined to be non-persuasive. See, Office Action, page 11, lines 6-8. However, Applicants respectfully submit that this mischaracterizes the Board’s decision. In the Examiner’s Answer, the Examiner argued that Applicants’ arguments regarding the use of propylene carbonate were not persuasive because “*Ozaki* is not applied to teach the electrolyte of the instant claims. . . . One of skill would be motivated to use the negative electrode of *Ozaki* for the negative electrode of Akashi because Akashi clearly suggests a negative electrode comprising a graphitized carbonaceous material.” See, Examiner’s Answer, page 5, lines 19-22; page 6, lines 1-2.

The Board merely agreed with the Examiner that *Akashi* was being relied on for the teaching of propylene carbonate and, thus, *Ozaki* was not necessary to show the required element of a solvent containing propylene carbonate:

Appellants also maintain that Akashi and *Ozaki* are not combinable because *Ozaki* ‘clearly disfavors the use of propylene carbonate as an organic solvent of the organic electrolyte for the non-aqueous electrolyte’ (page 8 of principal brief, third paragraph). However, *Akashi*, not *Ozaki*, discloses the use of propylene carbonate as an organic solvent. . .

See, Board Decision, page 5, lines 4-9. The Board further stated that “appellants have not demonstrated why one of ordinary skill in the art would have been dissuaded *from using the*

carbonaceous material of Ozaki for the negative electrode of Akashi.” See, Board Decision, page 5, lines 9-12 (emphasis added). However, the issue now is not whether one skilled in the art would have had a reason to substitute the carbonaceous material of *Ozaki* for the negative electrode material of *Akashi* but rather whether *Ozaki teaches away* from using propylene carbonate ***with its mesophase graphite particles.***

The Board never addressed whether *Ozaki teaches away* from the use of propylene carbonate. In fact, none of the Examiner’s Answer, Applicants’ Appeal Brief or the Board Decision even uses the phrase “teaching away.” Applicants also submit that the Board’s previous decision should not be controlling here because the claims have been amended several times, specifically regarding the amount of propylene carbonate and the particle size of the graphite, since the Board Decision. Regardless of whether it would have been obvious to replace the graphite material of *MacFadden* with the mesophase graphite particles of *Ozaki*, it is improper for the Patent Office to ignore portions of *Ozaki* that teach away from using its graphite material with propylene carbonate. See, M.P.E.P. § 2141.02 (VI) (2010) (“A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention”).

Ozaki teaches that “propylene carbonate (PC) is not employed” as a solvent with its carbon particles “because [PC] decomposes to generate a gas [at] during charging.” See, *Ozaki*, column 7, lines 5-8. As discussed previously, one of ordinary skill in the art would understand that propylene carbonate decomposes in a graphite-based cell due to the instability of propylene carbonate ***against a graphite material.*** See, Specification, page 2, paragraph 20. As set forth in the *Affidavit*, it is well known that the degree of decomposition of propylene carbonate in a graphite cell varies depending on the physical properties of the graphite material. See, *Affidavit*, ¶ 5. As such, *Ozaki*’s teaching not to use propylene carbonate because it decomposes would have suggested to one of ordinary skill in the art that propylene carbonate would decompose ***due to the reaction with the mesophase graphite particles*** of *Ozaki*.

The Patent Office further notes that “the claims on appeal require as little as 10 mol% of propylene carbonate.” See, Office Action, page 11, lines 13-14. However, one of ordinary skill in the art would understand that *Ozaki* teaches away from using ***any*** propylene carbonate with its graphite particles. For example, *Ozaki* teaches that ethylene carbonate may not be used alone in its electrolyte but can be mixed with other solvents:

On the other hand, ethylene carbonate (EC) used *alone* is not suitable, since it has a high melting temperature and is solid at ordinary temperature, *though it has no unfavorable side reaction, as of PC*. However, *EC may be used in a mixed solvent* of EC and either ether such as 1,2 dimethoxyethane, chain carbonate such as diethyl carbonate, ethyl methyl carbonate, or aliphatic-carboxylic acid ester such as methyl propionate. . . .

See, *Ozaki*, column 7, lines 8-16 (emphasis added). However, this portion of *Ozaki* expressly distinguishes ethylene carbonate from propylene carbonate and states that ethylene carbonate may be used in a mixed solvent because “it has no unfavorable side reaction,” unlike propylene carbonate. See, *Ozaki*, column 7, lines 8-11. Furthermore, *Ozaki* expressly states that propylene carbonate is “not employed” as a solvent in its electrolyte. See, *Ozaki*, column 7, lines 5-8. Therefore, one of ordinary skill in the art would understand that *Ozaki* teaches away from using *any* propylene carbonate with its mesophase graphite particles. Moreover, Applicants respectfully note that Claim 41 requires 35 mol% propylene carbonate and 65 mol% ethylene carbonate, rather than the 10 mol% limitation addressed by the Board.

The Patent Office further asserts that “the section of *Ozaki* cited by Applicant[s] as assertedly teaching away from the claimed invention (col. 2, lines 3-6) is part of the background section of *Ozaki*.” See, Office Action, page 11, lines 18-20. However, Applicants respectfully note that the portion of *Ozaki* that teaches away from using propylene carbonate with its mesophase graphite particles is column 7, lines 5-16, which is not part of the background section. Moreover, Applicants note, even if the alleged teaching away in *Ozaki* occurred in the background section, any portions of a reference that teaches away from other cited references or the claims must be considered (i.e., the references must be considered as a whole). *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443 (Fed. Cir. 1986).

Applicants respectfully submit that the Patent Office has applied hindsight reasoning and failed to consider *Ozaki* as a whole, including those portions of *Ozaki* teaching away from the present claims. Claim 26 requires the claimed graphite material to be used in combination with a solvent containing propylene carbonate. In stark contrast, as discussed previously, *Ozaki* teaches that propylene carbonate is not used as a solvent with its mesophase carbon micro beads. See, *Ozaki*, column 7, lines 5-11. One of ordinary skill in the art would thus have been discouraged from using the mesophase carbon micro beads of *Ozaki* with a propylene carbonate solvent to arrive at the present claims.

A gel electrolyte secondary cell including sintered meso-carbon micro-beads having the claimed size and a solvent containing propylene carbonate would also not have been obvious because the claimed combination achieves unexpected results. See, *Affidavit*, ¶¶ 6-7. As demonstrated in Table 1 of the Specification, a coin-shaped gel electrode cell containing a lithium metal foil positive electrode, an electrolyte composed of 35 mol % propylene carbonate and 65 mol % ethylene carbonate, and a negative electrode comprising various graphite materials was evaluated. See, *Affidavit*, ¶ 6. When the graphite negative electrode material was a fired material of meso-carbon micro-beads having a particle size such that the specific surface area is $3.6 \text{ m}^2/\text{g}$ and $1.2 \text{ m}^2/\text{g}$, respectively, initial charging/discharging efficiencies of 82.8% and 82.6% were obtained. See, *Affidavit*, ¶ 6. In contrast, when the same cell was used and the graphite negative electrode material was a fired petroleum coke having a specific surface area of $4.5 \text{ m}^2/\text{g}$, the initial charging/discharging efficiency was significantly lower – 61%.

Similarly, Table 2 demonstrates initial charging/discharging efficiencies of 74.5% and 74.1% in a gel electrolyte cell containing propylene carbonate when a graphite material comprised of sintered meso-carbon micro-beads is used as the anode material, whereas a ***significantly lower efficiency of only 56%*** is achieved in the same gel electrolyte cell when the anode material is substituted with a graphite material obtained by firing petroleum coke. See, *Affidavit*, ¶ 7. As such, one of ordinary skill in the art would understand that a graphite material comprising sintered meso-carbon micro-beads having the claimed particle size achieves an unexpectedly high charging/discharging efficiency when combined with propylene carbonate.

Furthermore, the combination of propylene carbonate and sintered meso-carbon micro-beads having the claimed particle size would not have been obvious because Applicants ***proceeded contrary to the conventional understanding*** at the time of the invention. “The totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of nonobviousness. *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986) (Applicant’s claimed process for sulfonating diphenyl sulfone at a temperature above 127°C was contrary to accepted wisdom because the prior art as a whole suggested using lower temperatures for optimum results as evidenced by charring, decomposition, or reduced yields at higher temperatures).” See, M.P.E.P. § 2145(X)(D)(3) (2010). “Furthermore, ‘[k]nown disadvantages in old devices which would ***naturally discourage search for new inventions*** may be taken into account in determining obviousness.’” *Id.* (citation omitted).

As discussed previously, it was well-known in the art that the decomposition of propylene carbonate is significant if the graphite material has a small particle size, thereby resulting in a lower charging/discharging efficiency of the battery. See, *Affidavit*, ¶ 5. Thus, the conventional understanding at the time of the invention was that it was undesirable to use graphite having a small particle size in a battery containing propylene carbonate in the electrolytic solution. *Id.* This is supported by *Ozaki*'s teaching that it was unfavorable to use propylene carbonate with its mesophase graphite particles. See, *Ozaki*, column 7, lines 5-16. However, Applicants surprisingly discovered that when sintered meso-carbon micro-beads are used, a high charging/discharging efficiency can be obtained in a gel electrolyte containing propylene carbonate even when the graphite material has a small particle size. See, Specification, page 1, paragraph 18; page 2, paragraphs 26-28. This discovery is contrary to conventional wisdom and, thus, it would not have been obvious to combine the mesophase particles of *Ozaki* with the propylene carbonate of *MacFadden* to arrive at the present claims.

Accordingly, Applicants respectfully request that the rejection of Claims 26-32 and 35-41 under 35 U.S.C. §103(a) to *MacFadden* and *Ozaki* be withdrawn.

In the Office Action, Claims 26-32 and 35-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over European Patent No. 0724305 B1 to Akashi ("*Akashi*") in view of *Ozaki*. For at least the reasons set forth below, Applicants respectfully submit that, even if combinable, *Akashi* and *Ozaki* are deficient with respect to the present claims.

For example, even if combinable, *Akashi* and *Ozaki* fail to disclose a gel electrolyte secondary cell including sintered meso-carbon micro-beads having the claimed size in combination with a solvent containing propylene carbonate as required, in part, by Claim 26. As discussed previously, *Ozaki* fails to teach the claimed combination of sintered meso-carbon micro-beads having the claimed size and a solvent containing propylene carbonate. See, *Affidavit*, ¶ 10. *Akashi* is too general in scope to lead one skilled in the art to the gel electrolyte secondary cell as specifically claimed, when considered in combination with *Ozaki*. For example, *Akashi* teaches generally using "graphite" as a negative electrode material but in its examples discloses using propylene carbonate with a lithium metal anode. See, *Akashi*, page 5, lines 3-16; page 10, lines 29-40; page 11, lines 1-6; *Affidavit*, ¶ 11. Thus, even if combinable, *Akashi* and *Ozaki* fail to disclose using sintered meso-carbon micro-beads having the claimed size in combination with propylene carbonate in accordance with the present claims.

Moreover, for at least the reasons discussed previously and as supported by the *Affidavit*, it would not have been obvious to combine the mesophase graphite particles of *Ozaki* with a solvent containing propylene carbonate to arrive at the present claims because: (1) *Ozaki* teaches away from using its mesophase carbon particles with a propylene carbonate solvent; (2) the claimed combination of propylene carbonate and sintered meso-carbon micro-beads having the claimed particle size achieves unexpected results over the closest prior art; and (3) combining sintered meso-carbon micro-beads having a small particle size with an electrolyte containing propylene carbonate was contrary to conventional wisdom at the time of the invention. See, *Ozaki*, column 7, lines 5-16; Specification, Tables 1-2; *Affidavit*, ¶¶ 5-7.


Accordingly, Applicants respectfully request that the rejection of Claims 26-32 and 35-39 under 35 U.S.C. §103(a) to *Akashi* and *Ozaki* be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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